

ABSTRACT OF THE DISCLOSURE

Isolated proteins, designated Cpa1 and Cpa49, and their corresponding amino acid and nucleic acid sequences are provided which are useful in the prevention and treatment of infection caused by group A streptococcal bacteria such as *Streptococcus pyogenes*. These proteins have been observed to bind to collagen, and thus methods are provided, such as by administration of the proteins or antibodies generated thereto, whereby streptococcal binding of collagen can be inhibited, and streptococcal infection can be greatly reduced. In addition, medical instruments can be treated using the collagen-binding proteins of the invention in order to reduce or eliminate the possibility of their becoming infected or further spreading the infection. In particular, the proteins are advantageous because they may be used as vaccine components or antibodies thereof, and they may be administered to wounds or used to coat biomaterials in order to act as collagen blocking agents and reduce or prevent severe infection by group A streptococcal bacteria.